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标题: Fabrication method of small-diameter hollow waveguides for terahertz waves
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来源出版物: JOURNAL OF THE OPTICAL SOCIETY OF AMERICA B-OPTICAL PHYSICS
卷: 29　期: 11　页: 3006-3009　出版年: NOV 2012
在 Web of Science 中的被引频次: 0
被引频次合计: 0
引用的参考文献数: 20
摘要: To develop a thin and flexible hollow waveguide for terahertz (THz) waves that can be applied to endoscopic applications, a new (to our knowledge) fabrication method is proposed in which thin polymer tubing is first drawn and then a silver layer is formed on the outside of the tubing. By using this method, a thick dielectric layer, which was difficult to form by liquid-phase deposition, is easily obtained with high accuracy in the thickness. A transmission loss at 1.5 THz measured by a Fourier transform IR spectrometer was 3.0 dB for a 50 cm long, 1 mm inner-diameter waveguide. It is shown that the transmission losses are not affected by the bending of the waveguide when the bending radius is larger than around 10 cm. (C) 2012 Optical Society of America
入藏号: WOS:000310708700003
语种: English
文献类型: Article
KeyWords Plus: FIBERS; TRANSMISSION; RADIATION; CANCER; CU
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出版商: OPTICAL SOC AMER
出版商地址: 2010 MASSACHUSETTS AVE NW, WASHINGTON, DC 20036 USA
Web of Science 类别: Optics
研究方向: Optics
IDS 号: 032IG
ISSN: 0740-3224
29 字符的来源出版物名称缩写: J OPT SOC AM B
ISO 来源出版物缩写: J. Opt. Soc. Am. B-Opt. Phys.
来源出版物页码计数: 4